

REMARKS

This paper is responsive to an Official Action that was issued in this case on November 14, 2005. In that Action, the Office:

- rejected claims 15-17 under 35 USC §102 as anticipated by U.S. Pat. No. 5,905,804 to Lee; and
- rejected claims 1-14 and 18-32 under 35 USC §103 as obvious over Lee.

Responsive to the Action, applicant hereby amends claims 1, 3-7, 9-10, 15-16, 20-21, 23, and 26-27 and cancels claims 24-25. Claims 1-23 and 26-32 are now in the case. Reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

U.S. Pat. No. 5, 905,804 to Lee is directed to a vibration control platform for audio speaker cabinets. Applicant's invention is a resonance/vibration control platform that is intended for use with other types of audio and video components, such as cd-players, turntables, amplifiers, preamplifiers, digital-to-analog converters, dvd players, and the like. Clearly, these are very similar applications. Yet, there are some differences in the nature of the intended application that have resulted in some significant differences between Lee's pad structure and the claimed invention.

Lee discloses a "pad structure" that includes: a lower disk (10) and an upper disk (20). The lower disk has three recesses (11) formed in an upper surface thereof and the upper disk has three recesses (21) formed in a lower surface thereof. The recesses are formed in complementary locations such that when the upper disk is positioned over the lower disk, the recesses align with one another. Each recess (11, 21) has a groove (111, 211) formed therein. (Col. 2, lines 28-47.)

Three balls (30) are sandwiched between the upper and lower disk, residing in the recesses. Each ball is larger than the groove (111, 211) so that the ball contacts the upper disk and the lower disk at a total of only four points. (Col. 2, lines 48-52; see Fig. 3.) There appears to be no intent on the part of Lee to limit the pad structure to only three recesses on each disk. It seems clear, however, that whatever the number of recesses, there will be a corresponding number of balls. In other words, each recess in the pad receives a ball.

Typically, multiple pad structures will be used under a speaker. (See Col. 2, lines 56-57: "For utilization, see Fig. 2, wherein three or more pads are shown under a

speaker cabinet 40 to support the speaker.”) The pads are relatively small and at least three pads, suitably spaced in a triangular orientation, are required for stability. (See, e.g., Fig. 2.)

Applicant’s claimed invention is somewhat different. In one illustrative embodiment, applicant’s vibration control platform includes a bottom plate (102) having a plurality of wells (106). In the illustrative embodiment, fifteen wells are present as three rows of five wells each. In use, vibration control elements (112), realized in some embodiments as resilient balls, are disposed in some of wells (106).

Distinction 1: Ball-to-Well Correspondence

As disclosed in the specification, one of the benefits of the relatively large number of wells is the ability to position the vibration control elements (112) in non-regular arrangements to support a component with a non-uniform weight distribution or having an unusual “footprint.” See, for example, Figures 5 and 6, and para [0049]. No embodiment depicted in the Figures shows a vibration control element disposed in each well of the multi-well bottom plate (102). In fact, in the typical embodiment, most of the wells are empty.

Although Lee does not address the issue of a speaker cabinet with an uneven weight distribution, it seems reasonable to assume that one might locate more pads under a relatively heavier region and fewer pads under a relatively lighter region to address such a problem. It is clear, however, that every pad that is used in such a situation will have its full complement of balls — one per each recess.

Turning now to applicant’s claims:

Amended claim 15 recites, in pertinent part, an article comprising:

<p>a plate, wherein said plate comprises a first plurality of spaced wells ... and</p> <p>a second plurality of vibration-control elements, wherein said vibration-control elements are received by some but not all of said wells, one vibration-control element to a well.</p>

Amended claim 21 recites, in pertinent part, an article comprising:

a bottom plate, wherein said bottom plate comprises a plurality of spaced wells ...
a plurality of resilient balls, wherein said resilient balls are received by some **but not all** of said wells; and
a top plate, wherein said top plate is disposed on said resilient balls, and wherein a surface of said top plate that abuts said resilient balls is planar and does not include wells.

Amended claim 26 recites a method comprising:

providing a bottom plate, wherein said bottom plate has more than four spaced wells in a major surface thereof; and
disposing at least three vibration-control elements in at least three of said wells, **but not all** of said wells, with one vibration-control element to a corresponding well.

Lee does not teach or suggest what is recited in independent claims 15, 21, or 26. Namely, Lee does not teach or suggest having vibration control elements in some but not all of the wells or recesses in the bottom plate. Consequently, these claims are allowable over Lee. Furthermore, claims 16-20, 22, and 27-32, are allowable based on their dependence upon respective independent claims 15, 21, and 26. The recitation of additional patentable features in the dependent claims provides a secondary basis for their patentability.

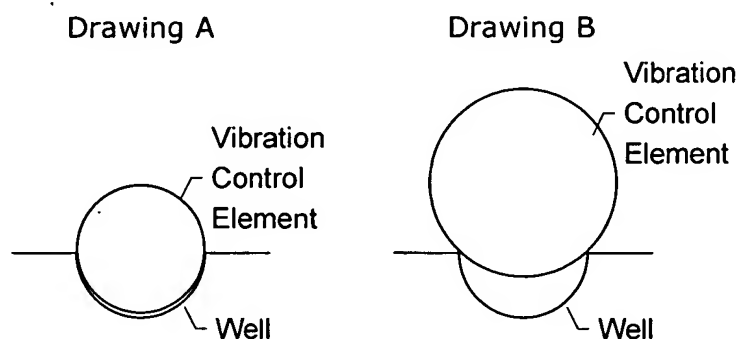
Distinction 2: Ball-to-Plate Contact

Applicant discloses that the size of wells (106) is primarily dependent upon the size of the vibration-control elements (112). As stated at para. [0046]:

If wells **106** are too large (*i.e.*, deep), the balls will be deeply recessed. As a consequence, the freedom of the balls to move in response to vibrations might be overly constrained. If the wells **106** are too small, overlying top plate **108** might be unstable.

Note that in the case of a well that is “too large,” the concern is that the balls will be overly constrained. What is being referred to here is not a case where the well is

large enough relative to a ball so that a ball could roll around freely in the well. This is unacceptable because such unrestrained motion of the ball would render the top plate unstable. What is being referred to is the case in which the ball is just slightly larger than the well such that the ball fits deeply in the well. In such a case, movement of the ball (as is desired and necessary in conjunction with its vibration control function) is overly restricted by the surface of the well. See drawing "A" below. In a case in which the well is too small, only a very small portion of the ball protrudes into the well, such that the ball could be easily displaced from the well. This would cause the overlying platform to be unstable. See drawing "B" below.



It is clear that the desired situation is between these extremes, and this is described in applicant's specification. But, even at the extreme cases mentioned above, the contact between the ball and the perimeter of the well in applicant's invention defines a **circle**. This is in contrast to Lee wherein there are only two points of contact in the lower recess and two points of contact in the upper recess.

Lee touts the benefit of two-point contact in each well noting that:

The ball **30** can always be located at a balanced and stable position since it can roll along the edges ... as the cabinet disposed upon the pads vibrates. By such arrangement, the coloration of the sound due to the natural resonance of the material of the place where the cabinet **40** is positioned can be insulated effectively.

(Col. 3, lines 1-11.)

Turning now to the claims:

Amended claim 1 recites:

An article for use with spherical vibration-control elements, wherein said article comprises

- a plate, wherein said plate has a first major surface and a second major surface, and further wherein:
 - said first major surface comprises a number, n , of spaced wells;
 - said wells each define a circular opening at said first major surface; and
 - said wells are suitably sized so that when they receive said spherical vibration control elements, **contact between said vibration control element and said first major surface occurs at substantially every point along said circular opening.**

(Emphasis added.)

Amended claim 23 recites:

An article for vibration control, wherein said article comprises a plate, wherein:

- said plate has a plurality of wells that are disposed in a first major surface thereof;
- each of said wells defines a circular opening in said first major surface of said plate, wherein said circular opening is suitable for receiving balls that have a diameter in a range of about $\frac{1}{2}$ inch to $1\frac{1}{4}$ inches, inclusive, wherein, when received by a well, **said ball does not contact a bottom of said well.**

(Emphasis added.)

Lee does not teach what is recited in claim 1 and 23. In particular, Lee does not teach or suggest contact between the vibration control element and substantially every point along the circular opening that is formed at the surface of the plate, as

per claim 1. Nor does Lee teach or suggest that the ball or vibration control element does not contact the bottom of the well (or recess), as per claim 23.

In fact, Lee teaches away from what is recited in either of claims 1 or 23. As indicated above, Lee teaches **two-point** contact in each recess, wherein the two-point **contact occurs at the bottom** of the recess. As a consequence, claims 1 and 23 are allowable over Lee. Furthermore, claims 2-14 are allowable based on their dependence upon independent claim 1. The recitation of additional patentable features in these dependent claims provides a secondary basis for their patentability.

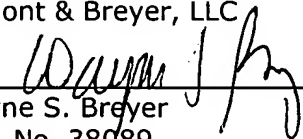
Conclusion

It is believed that claims 1-23 and 26-32 now presented for examination are allowable over the art of record. A notice to that effect is solicited.

Respectfully,

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